

What is claimed is:

1. A method for provisioning a digital subscriber line (DSL) service in a telecommunications network, the method comprising:

receiving at a provisioning server a service order requesting the DSL service from a service order entry system;

assigning a plurality of facilities needed to implement the service order based on provisioning data indicated by the service order, the plurality of facilities comprising at least a remote terminal connectable to a terminal of a DSL subscriber and an optical concentrator device connectable to the remote terminal;

determining an interface corresponding to each of the plurality of facilities, each interface converting the service order data into a specific protocol corresponding to the assigned facility; and

configuring each of the plurality of facilities, using the corresponding interface, to implement the service order based on instructions from the provisioning server.

2. The method for provisioning a DSL service according to claim 1, further comprising:

determining at least one path interconnecting the plurality of facilities and a subscriber port of the remote terminal, the subscriber port being configured to connect with the DSL subscriber terminal.

3. The method for provisioning a DSL service according to claim 2, further comprising:

determining and implementing a cross-connection in at least one of the plurality of facilities to enable the at least one path interconnecting the plurality of facilities and the subscriber port.

4. The method for provisioning a DSL service according to claim 3, further comprising:

storing configuration data in a system database, the configuration data comprising data identifying the plurality of facilities assigned to implement the service order, the at least one path interconnecting the plurality of facilities and the subscriber port of the remote terminal, and the cross-connection in the at least one of the plurality of facilities.

5. The method for provisioning a DSL service according to claim 1, wherein the provisioning data is derived based on the provisioning data indication in the service order.

6. The method for provisioning a DSL service according to claim 1, wherein the service order indicates the provisioning data by at least one of providing the provisioning data and providing a profile identification that corresponds to parameters that define the DSL service.

7. The method for provisioning a DSL service according to claim 1, further comprising:

determining whether the service order comprises erroneous data; and

when the service order is determined to comprise erroneous data, displaying at a graphical user interface an error message, which identifies the erroneous data, and receiving input from the graphical user interface to correct the erroneous data.

8. A method for provisioning a digital subscriber line (DSL) service in a telecommunications network, the method comprising:

receiving a service order at a common server via a service order entry system, the service order corresponding to a DSL subscriber;

converting the service order into provisionable steps;

determining facility assignment data related to each of a plurality of facilities needed to implement the provisionable steps, the facility assignment data comprising identification of at least a remote terminal and a subscriber port, connectable to a terminal of the DSL subscriber, and an optical concentrator device connectable to the remote terminal;

determining an interface for each of the plurality of facilities, each interface enabling communication with the corresponding one of the plurality of facilities; and

configuring each of the plurality of facilities to implement the service order based on instructions communicated from the common server to each of the plurality of facilities using the corresponding interface.

9. The method for provisioning a DSL service according to claim 8, further comprising:

formatting data from the service order into a common internal format prior to converting the service order into provisional steps.

10. The method for provisioning a DSL service according to claim 8, further comprising:

validating an intent of the service order with respect to a state of a port of the remote terminal associated with the DSL subscriber and provisioning the service order in the remote terminal upon successful validation.

11. The method for provisioning a DSL service according to claim 8, further comprising:

identifying errors related to at least one of the service order and the provisioning of the DSL service; and

displaying information regarding the errors at a graphical user interface, the graphical user interface being configured to enable a user to analyze and respond to the errors.

12. The method for provisioning a DSL service according to claim 8, the configuring each of the plurality of facilities to implement the service order comprising one of building, deleting or changing at least one virtual path over an optical fiber connection between the remote terminal and the optical concentrator device.

13. The method for provisioning a DSL service according to claim 12, the building of at least one virtual path over an optical fiber connection between the remote terminal and the optical concentrator device comprising:

providing a network-side port at the remote terminal configured to connect with the subscriber port;

communicating to the optical concentrator device the identity of the network-side port; and

configuring the optical concentrator device to support the virtual path to the network-side port of the remote terminal.

14. The method for provisioning a DSL service according to claim 12, the deleting of at least one virtual path over an optical fiber connection between the remote terminal and the optical concentrator device comprising:

disconnecting a network-side port at the remote terminal from the subscriber port;

communicating to the optical concentrator device the identity of the network-side port; and

configuring the optical concentrator device to delete support of the virtual path to the network-side port of the remote terminal.

15. The method for provisioning a DSL service according to claim 8, the configuring each of the plurality of facilities to implement the service order comprising one of building, deleting or changing at least one cross-connection in at least one of the plurality of facilities.

16. The method for provisioning a DSL service according to claim 8, further comprising:

enqueuing the provisionable steps after determining the facility assignment data related to each of a plurality of facilities needed to implement the provisionable steps; and

sequentially dequeuing the provisionable steps for implementation on a scheduled provisioning date, prior to determining the interface for each of the plurality of facilities.

17. The method for provisioning a DSL service according to claim 8, further comprising:

receiving service profile data related to at least one service from a service provider, the service profile data comprising at least one parameter related to the service order;

storing the service profile data in a system database; and

configuring each of the plurality of facilities to implement the service order additionally based on the service profile data.

18. A system for provisioning a digital subscriber line (DSL) service in a telecommunications network, the system comprising:

a server that receives a service order for the DSL service from a service order entry system;

a plurality of network facilities connectable to the server and a terminal of a DSL subscriber; and

a system database that stores the service order and a plurality of interfaces corresponding to the plurality of network facilities;

wherein the server assigns provisioning facilities from among the plurality of network facilities needed to implement the service order, the provisioning facilities comprising at least one remote terminal and at least one

optical concentrator device, the remote terminal being connectable to the optical concentrator device via an optical fiber line; and

wherein the server directs configuration of each of the provisioning facilities, using an interface identifier retrieved from the system database corresponding to each of the provisioning facilities, to implement the service order.

19. The system for provisioning a DSL service according to claim 18, the remote terminal comprising a subscriber port, the subscriber port being configured to connect with a DSL subscriber terminal, wherein the server enables at least one path interconnecting the plurality of facilities and the subscriber port of the remote terminal.

20. The system for provisioning a DSL service according to claim 19, wherein the at least one of the remote terminal and the optical concentrator device determine and implement a cross-connection to enable the at least one path interconnecting the plurality of facilities and the subscriber port.

21. The system for provisioning a DSL service according to claim 20, the system database comprising configuration data that identifies the plurality of facilities assigned to implement the service order, the at least one path interconnecting the plurality of facilities and the subscriber port of the remote terminal, and the cross-connection in the at least one of the plurality of facilities.

22. The system for provisioning a DSL service according to claim 18, further comprising:

a graphical user interface connected to the server and configured to interface with the server, the system database and at least one of the plurality of network elements.

23. The system for provisioning a DSL service according to claim 22, wherein, when the service order comprises erroneous data, the graphical user interface displays an error message, which identifies the erroneous data, and receives input from an operator in response to the erroneous data.

24. A system for provisioning a digital subscriber line (DSL) service in a telecommunications network, the system comprising:

a service order entry system that receives a service order for the DSL service from a DSL service provider;

a server that receives the service order from the service order entry system;

a plurality of network facilities connectable to the server and a terminal of a subscriber desiring the DSL service;

a facility inventory system connected to the server that stores facility information regarding each of the plurality of network facilities, the facility information comprising a type, a location and an availability of each of the plurality of network facilities; and

a system database connected to the server that stores data relating to the service order and a plurality of interfaces corresponding to the plurality of network facilities;

wherein the server communicates with the facility inventory system to determine provisioning facilities from among the plurality of network facilities needed to implement the service order received from the service order entry system, the provisioning facilities comprising at least one remote terminal and a subscriber port and at least one optical concentrator device, the remote terminal being connectable to the optical concentrator device via an optical fiber line; and

wherein the server directs configuration of each of the provisioning facilities using a corresponding one of the plurality of interfaces retrieved from the system database to implement the service order.

25. The system for provisioning a DSL service according to claim 24, further comprising:

a graphical user interface connectable to the server that enables interaction by a network operator with at least one of the server, the plurality of network facilities and the system database.

26. The system for provisioning a DSL service according to claim 25, wherein the server identifies errors related to at least one of the service order and the provisioning of the DSL service; and

wherein information regarding the errors is displayed at the graphical user interface and error responses are sent from the graphical user interface to the server.

27. The system for provisioning a DSL service according to claim 24, wherein the configuration of each of the provisioning facilities, using a corresponding one of the plurality of interfaces retrieved from the system database to implement the service order, comprises one of building, deleting or changing at least one virtual path over the optical fiber connection between the remote terminal and the optical concentrator device.

28. The system for provisioning a DSL service according to claim 27, wherein the building of at least one virtual path over the optical fiber connection between the remote terminal and the optical concentrator device comprises:

providing a network-side port at the remote terminal configured to connect with the subscriber port;



communicating to the optical concentrator device the identity of the network-side port; and

configuring the optical concentrator device to support the virtual path to the network-side port of the remote terminal.

29. The system for provisioning a DSL service according to claim 27, wherein the deleting of at least one virtual path over the optical fiber connection between the remote terminal and the optical concentrator device comprises:

disconnecting a network-side port at the remote terminal from the subscriber port;

communicating to the optical concentrator device the identity of the network-side port; and

configuring the optical concentrator device to delete support of the virtual path to the network-side port of the remote terminal.

30. The system for provisioning a DSL service according to claim 24, further comprising an interface configured to connect a graphical user interface of the DSL service provider with the server;

wherein the system database stores service profile data related to at least one service of the DSL service provider, the service profile data comprising at least one parameter related to the service order; and

wherein provisioning facilities are configured to implement the service order additionally based on the service profile data.

31. A computer readable medium for storing a computer program that provisions a digital subscriber line (DSL) service in a telecommunications network, the computer readable medium comprising:

a receiving source code segment that receives a service order requesting the DSL service from a service order entry system;

an assigning source code segment that assigns a plurality of facilities needed to implement the service order based on provisioning data indicated by the service order, the plurality of facilities comprising at least a remote terminal connectable to a terminal of a DSL subscriber and an optical concentrator device connectable to the remote terminal;

a determining source code segment that determines an interface corresponding to each of the plurality of facilities, each interface converting the service order data into a specific protocol corresponding to the assigned facility; and

a configuring source code segment that configures each of the plurality of facilities, using the corresponding interface, to implement the service order based on instructions from a provisioning server.

32. The computer readable medium for storing a computer program according to claim 31 further comprising:

a path determining source code segment that determines at least one path interconnecting the plurality of facilities and a subscriber port of the remote terminal, the subscriber port being configured to connect with the DSL subscriber terminal.

33. The computer readable medium for storing a computer program according to claim 32 further comprising:

a cross-section determining source code segment that determines and implements a cross-connection in at least one of the plurality of facilities to enable the at least one path interconnecting the plurality of facilities and the subscriber port.

34. The computer readable medium for storing a computer program according to claim 33 further comprising:

a memory source code segment that stores configuration data in a system database, the configuration data comprising data identifying the plurality of facilities assigned to implement the service order, the at least one path interconnecting the plurality of facilities and the subscriber port of the remote terminal, and the cross-connection in the at least one of the plurality of facilities.

35. The computer readable medium for storing a computer program according to claim 31 wherein the provisioning data is derived based on the provisioning data indication in the service order.

36. The computer readable medium for storing a computer program according to claim 31 wherein the service order indicates the provisioning data by at least one of providing the provisioning data and providing a profile identification that corresponds to parameters that define the DSL service.

37. The computer readable medium for storing a computer program according to claim 31 further comprising:

an error detection source code segment that determines whether the service order comprises erroneous data and, when the service order is determined to comprise erroneous data, initiates display at a graphical user interface of an error message, which identifies the erroneous data, and receives input from the graphical user interface to correct the erroneous data.

38. A computer readable medium for storing a computer program that provisions a digital subscriber line (DSL) service in a telecommunications network, the computer readable medium comprising:

a receiving source code segment that receives a service order at a common server via a service order entry system, the service order corresponding to a DSL subscriber;

a converting source code segment that converts the service order into provisionable steps;

a facility assignment source code segment that determines facility assignment data related to each of a plurality of facilities needed to implement the provisionable steps, the facility assignment data comprising identification of at least a remote terminal and a subscriber port, connectable to a terminal of the DSL subscriber, and an optical concentrator device connectable to the remote terminal;

an interface determining source code segment that determines an interface for each of the plurality of facilities, each interface enabling communication with the corresponding one of the plurality of facilities; and

configuring source code segment that configures each of the plurality of facilities to implement the service order based on instructions communicated from the common server to each of the plurality of facilities using the corresponding interface.